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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,406	09/26/2003	Hisashi Okada	Q77447	8389
7590 04/21/2004			EXAMINER	
SUGHRUE MION, PLLC 2100 Pennsylvania Avenue, NW. Washington, DC 20037-3213			XU, LING X	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/671,406

Applicant(s)

OKADA ET AL.

Examiner

Ling X. Xu

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/621,740.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/26/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 1 and 14 are generic to a plurality of disclosed patentably distinct species comprising a compound represented by the formula (XI). Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, even though this requirement is traversed. A single disclosed species is the species with all the elements in formula (XI) identified.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

During a telephone conversation with Mr. Sheldon Landsman on 2/10/2004 a provisional election was made without traverse to prosecute the invention of species of compound 81 on page 63 of the specification. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-25 read on the elected species.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Art Unit: 1775

2. The ultimate species was not found during the search for prior art and, therefore, the examination is now extended to another species of the formula (XI), wherein L is a 1, 3, 5-benzenetriyl group, Q3 is a pyridine, m is 3 and R11 is a hydrogen or substituent. Claims 1-25 read on the second elected species.

### ***Specification***

3. The disclosure is objected to because of the following informalities: applicant is required to update the status of the parent application, US application No 10/224,377, on page 1 lines 4 of the specification.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-3 and 15-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2-3 and 15-16, the term “a group comprising” is not a proper Markush format.

The claims are indefinite because the scope of the “group” is unclear.

Art Unit: 1775

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Ebisawa et al.

(JP-09-188874).

With respect to claims 1 and 14, Ebisawa discloses an organic EL element comprising at least one organic compound layer containing a quinoxaline compound represented by the formula (II) (translation, embodiments [0005] and [139]). Examples of formula (II) (Translation, embodiment [0008]) such as formulas (X)-(XIV) have the same structure as the second elected species. Specifically, in formulas (X)-(XIV), L2 can be a Benzene trier radical (same as 1, 3, 5-benzenetriyl group) (translation, embodiment [0011]), all the substituents may be hydrogen except R13, R23 and R33 may be hydrogen or substituent (translation, embodiment [0011]).

With respect to claims 2-3 and 15-16, Ebisawa discloses that the L2 of formula (X) can be a Benzene trier radical (same as 1, 3, 5-benzenetriyl group) (translation, embodiment [0011]). The benzene trier radical is an arylene group.

With respect to claims 4-7 and 17-20, Ebisawa discloses that the Z is an atomic group fused with the pyrazine group and Z may be a pyridine, see formulas (X)-(XI) of Ebisawa. These groups are all 6-membered nitrogen-containing aromatic heterocycles.

With respect to claims 8-10 and 21-23, Ebisawa discloses that n (corresponding to m in the instant claims) can be 3 in formula (II) (translation, embodiment [0008]).

Art Unit: 1775

With respect to claims 11-12 and 24-25, Ebisawa discloses the L2 of formula (X), which corresponding to the L in the claimed formula (XI) can be a Benzene trier radical (same as 1, 3, 5-benzenetriyl group) (translation, embodiment [0011]). L2 of formula (X) is connected to three single bonds, which corresponding to the L1, L2, and L3 positions of the claimed formula recited in claims 11-12 and 24-25.

With respect to claim 13, Ebisawa discloses that one of the organic layers, the luminous layer comprises the quinoxaline compound and a fluorescent polymer material (translation, embodiments [0145] and [0147]).

Accordingly, Ebisawa discloses all the limitations of claims 1-25.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

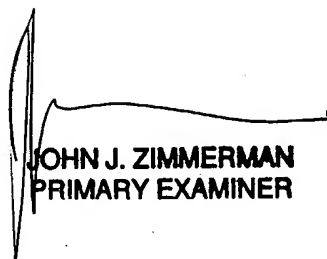
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1775

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ling X. Xu  
Examiner  
Art Unit 1775

lx



**JOHN J. ZIMMERMAN**  
**PRIMARY EXAMINER**